

REMARKS

Reconsideration and allowance of the present application based on the following remarks are respectfully requested.

Claims 42-64 and 67-119 are pending and stand rejected.

Claims 42-49, 58-59, 67-73, 82-88, 93-100, 109-110 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Cheshire (U.S. Patent No. 5,255,468). Because Cheshire fails to teach or suggest the present invention as claimed, Applicants respectfully traverse the rejection.

Cheshire Fails to Teach or Suggest Counterflow

The Official Action, without citing any relevant portion of the specification of Cheshire, states that “insects attracted to said outflow and flying along the upper portion of the plume towards the device intersect the inflow and are drawn into the inflow.” Official Action, p. 2. The noted portions of the specification, Col. 2, ll. 28-68 and Col. 8, ll. 43-55, are directed to the reaction of mosquitoes when encountering turbulent air. They do not provide any disclosure at all of any relationship between an outflow and an inflow of a device. The inflow is through the opening 18 while the outflow is through the open lower end 31. Col. 7, ll. 7-14; Col. 8, ll. 56-65. No relationship between the two flows is disclosed.

In fact, the outflow of Cheshire appears to be entirely irrelevant to its operation. Fig. 4 and its accompanying description explain the activity of Cheshire. That portion of the specification that describes the action of the Cheshire device makes no reference at all to the outflow. Col. 10, ll. 3-47. Instead, Cheshire teaches that mosquitoes can encounter the device at any of points A, C and D. Specifically, mosquitoes “begin to sense the air flow in a region around the apparatus 8 such as at the point A in Fig. 4.” Col. 10, ll. 22-24. Mosquitoes that arrive at point A are described as moving upward to point B where they “enter the killing zone...from which there is no escape.” Col. 10, ll. 28-29. Those that arrive at point C likewise fly upward to their doom. Finally, those that arrive at point D are overpowered and carried directly into the opening. None of points A, C or D have anything to do with the outflow. Cheshire does not disclose or suggest any relationship between those points and the outflow.

The only discussion of the outflow is at Col. 8, ll. 56-65. That discussion merely states that the outflow is down; it does not describe a relationship between the outflow and the inflow.

Applicants can find no discussion anywhere in Cheshire regarding insects flying along an upper portion of the outflow as recited in each of independent claims 42, 67, 82 and 93. Further, Applicants can find no discussion in Cheshire that indicates that the inflow is positioned such that insects flying along an upper portion of the outflow are drawn into the insect trap, likewise recited. More importantly, even though the Examiner bears the burden of establishing a *prima facie* rejection, the Office Action points out no such portions of the Cheshire disclosure, and fails to cite any other evidence supporting the conclusion reached in the Office Action that “insects attracted to said outflow and flying along the upper portion of the plume towards the device intersect the inflow and are drawn into the inflow.”

For at least the reason that Cheshire fails to teach or suggest the claimed relationship between the inflows and outflows, Applicants respectfully request that the rejection be withdrawn.

Cheshire Fails to Teach or Suggest an Attractant as Claimed

Page 2 of the Office Action states that Cheshire teaches “an air outflow using motion and heat to attract insects” and refers to Col. 2, ll. 28-68 and Col. 8, ll. 43-55. Likewise, page 4 of the Office Action states that light 16, carbon dioxide from the air, and movement of air are considered to be “attractants” employed by Cheshire. Applicants respectfully disagree with the characterization of the reference and submit that it fails to teach or suggest the present invention as recited in the claims of the present application. Cheshire does not teach anything at col. 2, ll. 28-68 or col. 8, ll. 43-55 about using motion and heat to attract insects, but instead describes the use of light to attract insects, just as in the DeYoreo reference. The discussion at cols. 2 and 8 describes how moving air causes mosquitoes to take evasive measures, it does not describe them as being attracted to the motion. Further evidence that Cheshire does not consider the motion of the air to be an attractant is the discussion at col. 8 specifically describing “turbulent air” as being separate from “the attractant 10.” The attractant 10 is a light bulb 16. Col. 6, ll. 14-19. The Office Action is merely a *post hoc* interpretation of the patent using Applicants’ specification and claims as a guide. Not one of the four “attractants” on which the rejection is based forms the basis for a proper rejection as set forth in detail below.

Light Cannot be the Recited Attractant

The Board's consideration of DeYoreo in its January 29, 2001 decision makes clear that the light taught by DeYoreo cannot be considered to be an attractant as recited in the claims of the present invention. The Board contrasted the Deyoreo reference with the present invention by focusing on the difference between "an insect killer or attracting device which employs a light source to attract insects," and the "flow of insect attractant" of the present invention. Thus, any reliance on the light of Cheshire as teaching or suggesting a flow of insect attractant is in error and that position has already been rejected by the Board.

Moreover, even if one could rely in general on light as an attractant, it is clear that light cannot be an attractant as recited in the claims of the present application. The context of the claims further defines how the attractant must behave in the operation of the claimed device. Specifically, claim 42 recites "an outflow comprising an insect attractant," meaning that the attractant is at least part of the outflow, and that the outflow flows outwardly to "create a plume flowing downwardly and spreading radially from said device." It is well known that light travels in essentially straight lines and will not "[flow] downwardly and [spread] radially from" its source. Light is physically incapable of performing in the recited manner. Thus light, relied upon in the rejection, cannot be a part of an outflow as recited in claim 42. Likewise, claims 67 and 82 recite "flowing outwardly from said device to create a plume flowing downwardly and spreading radially," and claim 93 recites that the plume comprising the attractant flows "downwardly and away from [the] device." Each remaining claim depends from one of these independent claims and thus incorporates the same limitations missing from the Cheshire reference with respect to light.

Ambient CO₂ Cannot be the Recited Attractant

Applicants readily admit that there is carbon dioxide (CO₂) present in air as suggested in paragraph 6, p. 4 of the Office Action. However, the air flowing out of the Cheshire device is nothing more than ambient air, and applicants submit that as a logical proposition, ambient levels of CO₂ cannot possibly be an "attractant" as recited in the claims. If biting insects such as mosquitoes were to be attracted to the amount of CO₂ present in ambient air, they would clearly be unable to ever locate an animal on which to feed as they would be simultaneously attracted in every direction. An attractant must actually be able to function to attract insects to the outflow and thereby to the device, which ambient levels of CO₂ cannot do.

Motion of Air is not the Recited Attractant

Applicants can find no teachings in Cheshire that indicate that motion of an outflow is considered to be an attractant. In fact, Cheshire teaches only that motion of air leads to an upward flight reflex in mosquitoes. Col. 2, ll. 28-35. Cheshire's teachings regarding motion of air are not related to capture of insects but rather teach that turbulence and motion in air can lead to escape. Specifically, Cheshire teaches that this reaction leads to various problems in capturing mosquitoes including having to overcome the lift in the insects' flight and uncaught insects accumulating under a rain cover. Col. 2, ll. 46-68.

In contrast to using motion imparted to air by a fan, as suggested in the Office Action, the "motion" that is taught by Cheshire to attract insects is the motion of a rotatable sleeve. Col. 4, ll. 36-40. Motion of a rotatable sleeve is not an attractant as recited in the claims of the present invention. Just as with the light, discussed above, the rotatable sleeve can hardly be said to flow downwardly and radially, downwardly and outwardly, or downwardly and away. Instead, the sleeve merely rotates in place. Finally, in the embodiment incorporating the rotating sleeve, the outflow 52 does not flow downwardly at all, but rather upwardly and radially. Thus, the "motion" described by Cheshire has nothing at all to do with the claims of the present application.

Heat is Not the Recited Attractant

The only teaching of heat to attract insects in Cheshire is in the embodiment of Fig. 3. Col. 10, ll. 57-67. In this embodiment, there is no teaching at all of a downward and outward outflow. In contrast, the outflow at the discharge slot 52 of the embodiment of Fig. 3 is upward. Moreover, the embodiment of Fig. 3 of Cheshire teaches away from using other than an upward outflow. The inflow 55 and outflow of Cheshire Fig. 3 are designed to take advantage of the upward flight reflex of mosquitoes. In short, the upward airflow 53 within the housing cooperates with the upward flight reflex to pull the mosquitoes into the electric grid, killing them. Col. 12, ll. 12-22; see also Col. 2, ll. 46-55 (discussing drawbacks of downward flow). Cheshire therefore fails to teach or suggest a device in which heat in an outflow that flows downwardly and outwardly is used to attract insects.

Even if the Fig. 1 embodiment were taken to teach the missing downward flow, the two embodiments together fail to anticipate or render obvious the present claims. It is improper hindsight to simply identify individual components of a claim from different portions of a reference in order to support a rejection. The combination of two separate

portions of a single reference requires more than the “mere identification of individual components of claimed limitations.” *In re Kotzab*, 217 F.3d 1365, 1371, 55 USPQ2d 1313, 1317 (Fed. Cir. 2000). Moreover, “[e]very element of the claimed invention must be literally present, *arranged as in the claim*” and “[t]he *identical invention* must be shown in as complete detail as is contained in the ... claim.” *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989) (emphasis added and internal cites omitted). Finally, Cheshire teaches away from any such modification of the Fig. 3 embodiment as discussed above.

As thoroughly discussed above, applicants submit that Cheshire fails to include each and every element of the present invention as claimed. In particular, Cheshire does not teach or suggest the claimed relationship between the inflow and outflow and does not teach or suggest the claimed attractant. Moreover, even if Cheshire were considered to teach what the Office Action asserts that it teaches, it would be improper to combine the two separate embodiments of Cheshire. Finally, even the combination of the two Cheshire embodiments fails to teach or suggest every element of the claimed invention *arranged as in the claims* as required.

Because Cheshire fails to teach or suggest the present invention as claimed, Applicants respectfully request that the rejection of the independent claims 42, 67, 82 and 93 under § 102 based on Cheshire be withdrawn. Because each of the remaining claims 43-49, 58-59, 68-73, 83-88, 94-100, 109-110 depend directly or indirectly from a respective one of the independent claims, Applicants submit that they are patentable for at least the same reasons.

Claims 50-52, 60-62, 101-103 and 111-113 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Cheshire. Applicants respectfully traverse this rejection. Applicants submit that these dependent claims are patentable for at least the same reasons as the independent claims from which they depend. Furthermore, the Official Action fails to set forth a *prima facie* case of obviousness. A *prima facie* case of obviousness “can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either explicitly or implicitly in the references themselves.” MPEP § 2143.01. The Office Action does not provide any discussion whatsoever regarding any teaching, suggestion or motivation to modify Cheshire in the manner asserted. The Office Action even admits that Cheshire

does not, in fact, disclose the actual position of the bottle or net discussed at Col. 4 other than to state that it is positioned to receive the catch. A disclosure that does not even teach any location for the recited collection bag cannot be said to teach or suggest the particularly recited location as claimed in the present application. Furthermore, Cheshire is lacking additional elements as set forth above with respect to the independent claims. Applicants therefore respectfully request that the rejection of claims 50-52, 60-62, 101-103 and 111-113 under 35 U.S.C. § 103(a) be withdrawn.

Claims 53-57, 63, 64, 74-81, 89-92, 104-108, 114-119 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Cheshire in view of Waters. Applicants respectfully traverse this rejection. Waters does not overcome the deficiencies of Cheshire thoroughly discussed above. In particular, Waters does not teach or suggest anything at all with respect to a relationship between the inflow and outflow plumes. As also discussed above, Cheshire does not teach anything about the outflow comprising an attractant or playing any role at all in the capture of insects. Thus, there is no motivation at all to combine the two references in the manner suggested in the Office Action.

That the Office Action states that it would be obvious to supply the CO₂ above the fan points out the hindsight nature of the rejection. Office Action, p. 4. “The mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination.” *In re Mills*, 916 F.2d 680, 16 USPQ2d 1430 (Fed. Cir. 1990); MPEP § 2143.01 (emphasis in original). One of ordinary skill in the art would not read Cheshire to suggest putting a CO₂ source above the fan because Cheshire does not teach anything about using the outflow of the trap to lure insects. Cheshire operates by using a light lure to bring insects into the killing zone X shown in Fig. 4. Col. 10, ll. 3-21. The outflow at the lower housing 15 is merely an exhaust. Col. 8, ll. 56-65. Waters makes no mention at all of Cheshire-type light traps or of any fan at all. There is no teaching or suggestion in either reference that adding CO₂ to the exhaust of Cheshire is desirable. A motivation to combine the references is a requirement of the *prima facie* case of obviousness. MPEP § 2143.

Because there is no actual motivation to combine present in either of the two references, the Official Action has failed to set forth a *prima facie* case of obviousness. Applicants therefore respectfully request that the rejection of claims 53-57, 63, 64, 74-81, 89-92, 104-108, 114-119 under 35 U.S.C. § 103(a) based on Cheshire in view of Waters be withdrawn.


In addition to the foregoing arguments regarding obviousness, Applicants have provided a declaration of Raymond Iannetta and a letter from Daniel Kline, Ph.D. Applicants submit that each of these additional documents are evidence of nonobviousness, specifically commercial success (Iannetta declaration) and unexpected results (Kline letter). To the extent that the Examiner intends to apply any rejection under 35 U.S.C. § 103 in lieu of the traversed rejections under § 102, the evidence of nonobviousness should be considered. In re Piasecki, 745 F.2d. 1468, 1472, 223 USPQ 785, 788 (Fed. Cir. 1984).

In view of the foregoing, the claims are now believed to be in form for allowance, and such action is hereby solicited. If any point remains in issue which the Examiner feels may be best resolved through a personal or telephone interview, please contact the undersigned at the telephone number listed below.

All objections and rejections having been addressed, it is respectfully submitted that the present application is in a condition for allowance and a Notice to that effect is earnestly solicited.

Respectfully submitted,

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Attachments: Iannetta Declaration
Kline Letter
Summary of Studies